

REMARKS

Claims 1, 3, 5-8, and 10-14 remain pending in the application. A Request For Continued Examination (RCE) is included herewith, and therefore the amendments should be entered even though the amendments are being submitted subsequent to a Final Office Action. Favorable reconsideration is requested in view of the claim amendments and following remarks.

Claim Rejections Under 35 U.S.C. § 103(a)

Independent Claims

Claims 1, 3, 5-8, and 10-14 are pending in the application. Similar to the previous Office Actions, the claims stand rejected under 35 U.S.C. §103(a) as being obvious based on the combination of Totterdell, European Patent Application 0 028 067, and Ohsugi et al., U.S. Patent No. 4,955,213, alone or in combination with various tertiary references.

In summary, Applicants have amended the claims in two ways. First, the claims now recite that the control portion “is configured” to perform its various operations in response the Examiner’s comments that the features of the control portion are not structural. Second, the claims have been amended to recite that water level detection occurs after a “wash cycle including washing, rinsing, and draining”. The recitation of a “wash cycle” is in response to the Examiner’s comments that the previous claim phrase, “after washing”, should be interpreted as washing only, excluding the remainder of the wash cycle (i.e., rinsing and draining).

The Examiner may recall that, in response to the first Office Action, Applicants amended independent claims 1, 3, and 8 to recite the following feature:

when said operation for washing is completed, said control portion causes said water level detecting unit to detect water level in said water tank only for a prescribed time period set in accordance with a time period calculated from a minimum flow rate of water fed from said water feed unit and a smallest amount of water detectable by said water level detecting unit, . . .

This feature was incorporated into claims 1, 3, and 8 from claims previous claims 2, 4, and 9, respectively. Claims 2, 4, and 9 were cancelled.

With respect to the feature of the prescribed time period being set as claimed, in the Final Office Action the Examiner stated that the prescribed time period “is not required to be calculated by the controller. The time period could be entered manually and therefore [is] not a feature of the apparatus nor does it further limit the apparatus claim. The time period is a use of the apparatus.” (See Final Office Action at pages 3, 7, and 10-11.) The Examiner essentially took the position that this feature is not structural, and therefore is not entitled to patentable weight.

In response to the Final Office Action, Applicants argued that, as previously claimed, the control portion is configured to cause water level detection based on a prescribed time period, as determined in accordance with two features: (1) a minimum flow rate of the water feed unit, and (2) a smallest amount of water detectable by the water level detecting unit. In this manner, water level detection occurs for a minimal amount of time to conserve energy. Because the two features are characteristics of the water feed unit and the water level detecting unit respectively, they are structural in nature. In addition, because the control portion is configured to operate based on the characteristics of the water feed unit and water level detecting unit, the configuration of the control portion likewise is structural. The fact that the control portion may not need to calculate the prescribed time, as stated by the Examiner, is irrelevant because the control portion still is *configured* in accordance with the prescribed time. Such a configuration is not disclosed or suggested by a combination of Totterdell and Ohsugi.

In the Advisory Action, the Examiner states that, although Applicants argued that the control portion is configured in a particular manner, “configured” language was not used in the claims. Applicants have amended independent claims 1, 3, and 8, to clarify the configuration of the control portion. Applicants have made commensurate amendments to the dependent claims as appropriate. With these amendments, Applicants’ previous arguments have merit. Particularly, because the control portion as

now claimed is configured to operate based on the structural characteristics of the water feed unit and water level detecting unit, the configuration of the control portion likewise is structural. In addition, the fact that the control portion may not need to calculate the prescribed time is irrelevant because the control portion still is *configured* in accordance with the prescribed time. A combination of Totterdell and Ohsugi lacks these features.

In the Final Office Action, the Examiner also asserted that although Ohsugi does not teach that water level detection is carried out upon completion of the washing cycle, Totterdell teaches water level detection upon completion of the washing cycle for a period of time (citing page 5, lines 7-28). Ohsugi teaches that the washing machine is turned off after a period of time (citing col. 6, lines 5-10). The Examiner concluded that the combination results in the claimed invention.

In response to the Final Office Action, Applicants demonstrated that Totterdell teaches monitoring the water level during the draining operation rather than at the end of the wash cycle. (See, e.g., page 2, line 24 to page 3, line 20.) In the passage relied upon by the Examiner, Totterdell states: “At the end of the wash/rinse part of the programme, a ‘pump-out’ signal is applied to controller 10 to energise the drain pump 6. This signal also starts a timer 18 within the controller 10. During this period controller 10 monitors the switch 12 and if the latter does not close during the time period of timer 18, this indicates that the filter is blocked and a register 19 is set.” (Page 5, lines 18-24, emphasis added.)

Accordingly, although there is a reference in Totterdell to monitoring “at the end of the wash/rinse part of the programme”, water level monitoring, as described in this passage, is occurring during draining insofar as a “pump-out signal is applied to controller 10 to energise the drain pump 6.” Thus, the water level is monitored while the drain pump is energized, *i.e.*, *during draining*. Water level detection does not occur at the end of the entire wash cycle, which would include after draining, but only after the “wash/rinse part of the programme”. This differs from the claimed invention in which

the residual water level is monitored after even the drain part of the cycle is completed.

In this vein, Applicants further argued that Totterdell is concerned with detecting a blockage which may prevent appropriate draining. In contrast, the claimed invention is concerned with detecting a leakage from the water feed unit into the drum. Because Totterdell is not concerned with detecting leakage from the water feed unit, it does not teach or suggest monitoring the water level based on a minimum flow rate of the water feed unit. There also is no need in Totterdell to monitor the water level once the draining portion of the cycle is complete to detect a drain blockage. Similarly, Ohsugi discloses a conventional auto shutoff that shuts off the power after an arbitrary time, and therefore likewise is not based on a minimum flow rate of the water feed unit. Accordingly, a combination of Totterdell and Ohsugi does not result in or suggest the claimed invention.

In the Advisory Action, the Examiner states that although Applicants argued that water level detection occurs after the entire wash cycle, the claims recite the phrase "after washing". The Examiner states:

In response to applicant's argument that the references (Totterdell and Ohsugi) fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "the residual water level is monitored after even the drain part of the cycle is completed") are not recited in the rejected claim(s). The claims state "when said washing is completed." The washing is completed before the rinse cycle can occur; therefore, applicant's argument that the prior art does not teach monitoring the water level after the wash cycle is completed is not persuasive. . . . This argument is not found persuasive for the reason that none of the claims recited that the wash cycle included the rinsing and draining cycle.

(Advisory Action at pages 3-4.) Applicants respectfully disagree with this interpretation.

Applicants submit that the specification is clear that water level detection occurs only after the entire wash cycle is completed (including rinsing and draining), and the claim phrase "after washing" should be interpreted as such. (See, e.g., page 13, line 28 to page 14, line 9; Figs. 7-9.) To clarify, however, in accordance with the Examiner's

comments, Applicants have amended independent claims 1, 3, and 8, to recite that water level detection occurs after a “wash cycle”, which is not limited to mere washing. Applicants have made commensurate amendments to the dependent claims as appropriate. With these amendments, Applicants’ previous arguments have merit. In particular, Totterdell teaches only monitoring the water level during the draining operation, rather than at the end of the wash cycle. In addition, Ohsugi discloses a conventional auto shutoff that shuts off the power after an arbitrary time. Accordingly, a combination of Totterdell and Ohsugi does not result in or suggest the claimed invention.

Dependent Claims

The dependent claims stand rejected pursuant to 35 U.S.C. § 103(a) as being obvious over Totterdell in view of Ohsugi and other tertiary references. The dependent claims each depend from either claim 1, 3, or 8, and therefore are patentable for at least the same reasons. The rejection of these claims, therefore, should be withdrawn.

Certain dependent claims are patentable for at least the following additional reasons. Regarding claim 5, the Examiner again relies on Dirnberger et al., U.S. Patent No. 6,840,553 (Dirnberger) as allegedly disclosing the claimed lock unit (citing col. 4 lines 48-65). Dirnberger states generally that a machine door lock may be blocked when water in the washing machine has reached a level at which opening the door would permit water to escape. Applicant previously argued that Dirnberger does not disclose the additional feature of claim 5 that a control portion causes the lock unit to lock the door when the leakage detecting unit detects water leakage at the water feed unit. In the Advisory Action, the Examiner again essentially states that the device of Dirnberger renders obvious any locking unit that prevents the dangerous situation of water spilling onto the floor. Applicants respectfully disagree. Specifically as to claim 5, the lock unit responds to water leakage from the water feed unit. The Examiner has not pointed to any passage of Dirnberger that discloses or suggests this feature.

Regarding claims 6-7 and 11-12, the Examiner further relies on Baubin, U.S.

Patent No. 4,696,171 (Baubin) and Nakamura et al., U.S. Patent No. 5,000,015 (Nakamura). The Examiner states that Nakamura discloses a lock detecting unit (col. 13 lines 60-67). The lock detecting unit may detect whether the machine lid is faulty. The Examiner also states that Baubin discloses a pressure switch (level sensor) that indicates an overflow situation and causes water to drain from the wash tub (col. 11 lines 56-67). The Examiner states that it would have been obvious to use a leak detecting unit that detects a high water level that would tell the control portion to drain the water, in combination with a lock detecting unit.

The current amendments further distinguish claims 6-7 and 11-12. Applicants previously argued that the level sensor of Baubin detects an overflow situation during the wash cycle, as in over filling the tub. It is not at all a leakage detecting unit that detects water leakage of the said water feed unit. The current claim amendments make clear that water level detection occurs after the wash cycle is completed. The amendments, therefore, distinguish the claimed invention from the device of Baubin, which detects an overflow situation during the wash cycle. The Examiner has not pointed to any passage of Baubin or Nakamura, whether individually or in combination, that discloses or suggests detecting a leakage at the water feed unit.

Regarding claims 13-14, the Examiner indicates that Totterdell discloses a plurality of sensors to monitor the water level (page 5 lines 7-25). As is apparent from the disclosure of Totterdell, the sensors monitor and control filling and draining during the various components of the wash cycle. As shown above, however, the sensors do not, "after the completion of said wash cycle", control the draining of water improperly remaining after the entire wash cycle, as does the control portion recited in claims 13 and 14. With the clarifying claim amendments that water level detection occurs after the wash cycle, the previous arguments regarding claims 13 and 14 have merit.

For at least these additional reasons, the dependent claims are not obvious over Totterdell in view of Ohsugi and other tertiary references, and therefore the rejection of these claims should be withdrawn.

Conclusion

Accordingly, claims 1, 3, 5-8, and 10-14 are believed to be allowable, and the application is believed to be in condition for allowance. A prompt action to such end is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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